

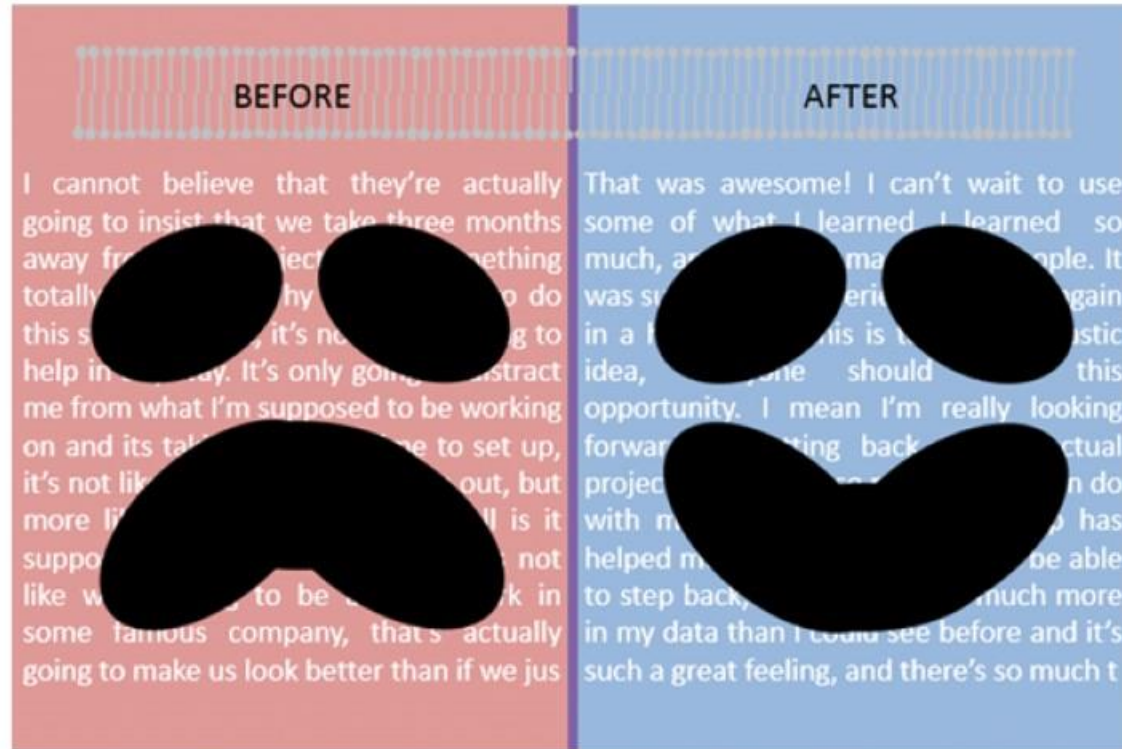


# Doctoral internships FUN TIMES BUT WAS IT A GOOD LEARNING EXPERIENCE?

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14<sup>th</sup> October 2016

## Debate around the benefits of doctoral internships based on anecdotal evidence



# Evaluation: Did the PIPS Scheme enhance doctoral education?



- Study designed around the Rugby Team Impact Framework
  - 4 levels of learning outcomes Reaction, Learning, Behaviour, Results
- 20 question survey : a mix quantitative and qualitative evidence



**eastbio**  
the East of Scotland Bioscience Doctoral Training Partnership

- Online questionnaire emailed to 48 PGRs who had completed their PIPS.  
PGRs were from the first two cohorts of BBSRC funded PhD students in the EAST of Scotland DTP
- 39 responses; 81% response rate

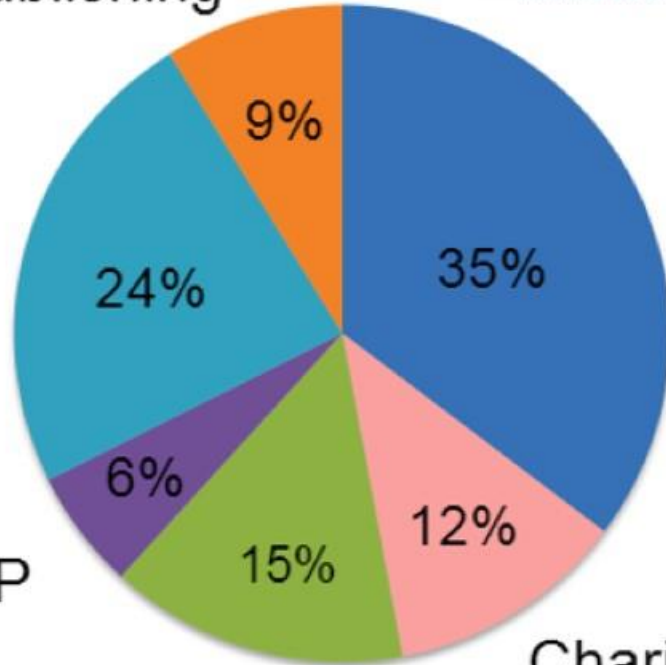




Science publishing



Education and outreach



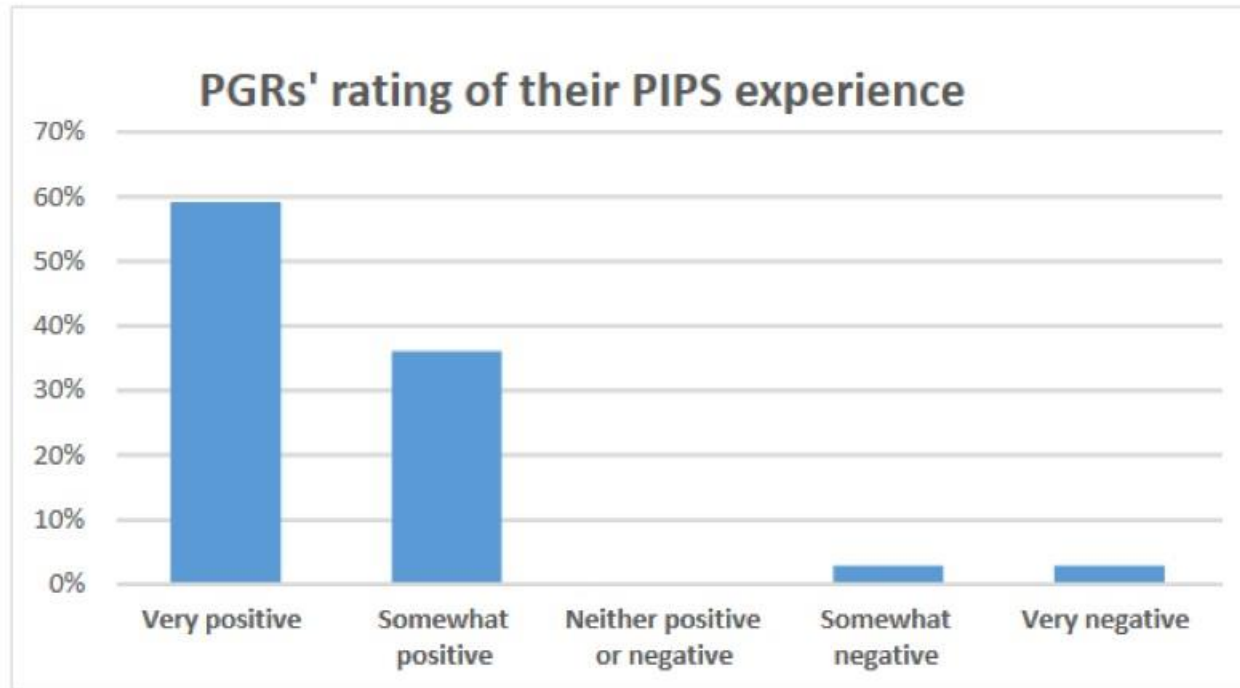
SME



Policy

Charities (science funding)

## Rugby Impact Framework level 1 learning outcome - Reaction



“I cannot recommend the PIPS program enough, having the opportunity has had a significant impact on me as a PhD student, a researcher and a person”

# Less Tangible Outcomes

Rugby Impact Framework level 2 learning outcome - Learning

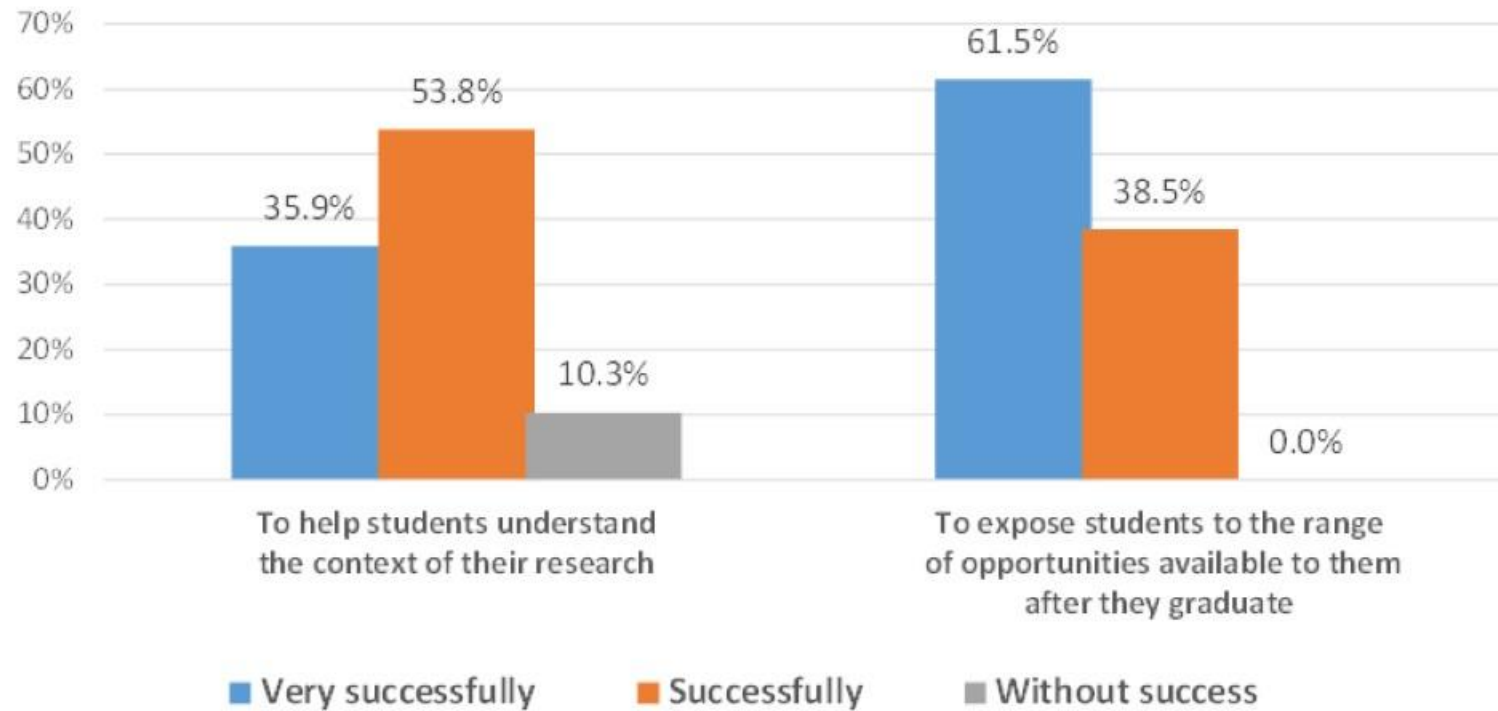
“I found it challenging to change the way I thought from a scientific/research view to a government policy making view”

“A lot of my work involved getting members of different organisations to communicate with each other and I was surprised at how difficult this is”



## Rugby Impact Framework level 2 – what was the learning delivered by the PIPS Scheme?

### Outcomes from PIPS scheme



 **BBSRC**  
Pips  
*Learning Objectives*





# PIPS experience produced personalised educational gains

“I have seen which kind of skills set this industry is interested in and I am planning to spend more time to develop those skills in order to improve my chances to get a job in this sector”



“I found it challenging to expose myself to a completely new field of knowledge. I had no awareness of the chemical engineering process before undertaking the placement and now I am better cited to engage in discussion on such matters. I also learnt a lot of Spanish”

# Improvement of PGR skills from PIPS experience

Rugby Impact Framework level 2 learning outcome - Learning

Knowledge and intellectual abilities	Significant	Reasonable	No opportunity
Creativity	56%	41%	3%
Cognitive abilities	49%	49%	2%
Knowledge base	51%	44%	5%

Rugby Impact Framework level 2 learning outcome - Learning

<b>Personal effectiveness</b>	<b>Significant</b>	<b>Reasonable</b>	<b>No opportunity</b>
Professional and career development	56%	44%	0%
Self management	69%	31%	0%
Personal qualities	72%	26%	2%

✓ Self reported gains




Before we proceed  
**A word of caution**

To verify PGRs view of the benefits will require a systematic in depth survey of their PhD supervisors' and employers who hosted their PIPS to gather evidence of their perceptions of these **behavioural changes**.



Rugby Impact Framework level 2 learning outcome - Learning

<b>Research, governance, organisation</b>	<b>Significant</b>	<b>Reasonable</b>	<b>No opportunity</b>
Finance, funding and resources	15% 	41%	44%
Research management	49%	33%	18%
Professional conduct	54%	41%	5%

- ✓ shortage of skills development opportunities

Rugby Impact Framework level 2 learning outcome - Learning

<b>Engagement, influence and impact</b>	<b>Significant</b>	<b>Reasonable</b>	<b>No opportunity</b>
Engagement and impact	51%	31%	18%
Communication and dissemination	51%	36%	13%
Working with others	69%	28%	3%

- ✓ an innovative model for development of soft skills development

# Performance of returning PGRs

Rugby Impact Framework level 3 learning outcome – hints to a behavioural changes

	Agree	No change	Disagree
I am more confident interacting with different people in different work situations	82% ←	18%	0%
I am more open to new ideas and activities	64%	36%	0%
I am managing my PhD project and time better	46%	49%	5%
I am more confident conducting my PhD research	46% ←	51%	3%

Data is based on reported behaviour rather than observed or directly measurable change.

# Personal growth and behavioural change




Rugby Impact Framework level 3 learning outcome – hints to a behavioural change



“I was denied the luxury of taking my work home. I found this to be a positive influence on my work life balance, which I tried to maintain on return to my PhD”



## Hints to Rugby Impact Framework level 4 learning outcome

Data is based on PGRs view of the outputs from their PIPS activities rather than directly measured	Benefits from PIPS Activities		
		Yes	No
	Subsequent funding application 	23%	77%
	Increased skills of the workforce	33%	67%
	Enhanced market knowledge / contacts	36%	64%
	Knowledge exchange 	64%	36%
	Transfer of technology	8%	92%
	New Intellectual Property	8%	92%
	Enhancing of existing tools or technology	26%	74%
	Development of new tools or technology	15%	85%
	Enhancement of existing production process	28%	72%
	Development of new production processes	13%	87%
	Enhancement of existing product or policy 	51%	49%
	Development of new product or policy	36%	64%
	Established / maintained relationship with University	61%	39%

Rugby Impact Framework level 4 learning outcomes –  
hints to business outcomes



Verifying these benefits will require a systematic in depth survey of the employers who hosted PIPS to gather evidence of the **outputs and outcomes** from PIPS activities.

# Emerging benefits to Universities and wider Society

Rugby Impact Framework level 4 learning outcome – hints to potential impacts

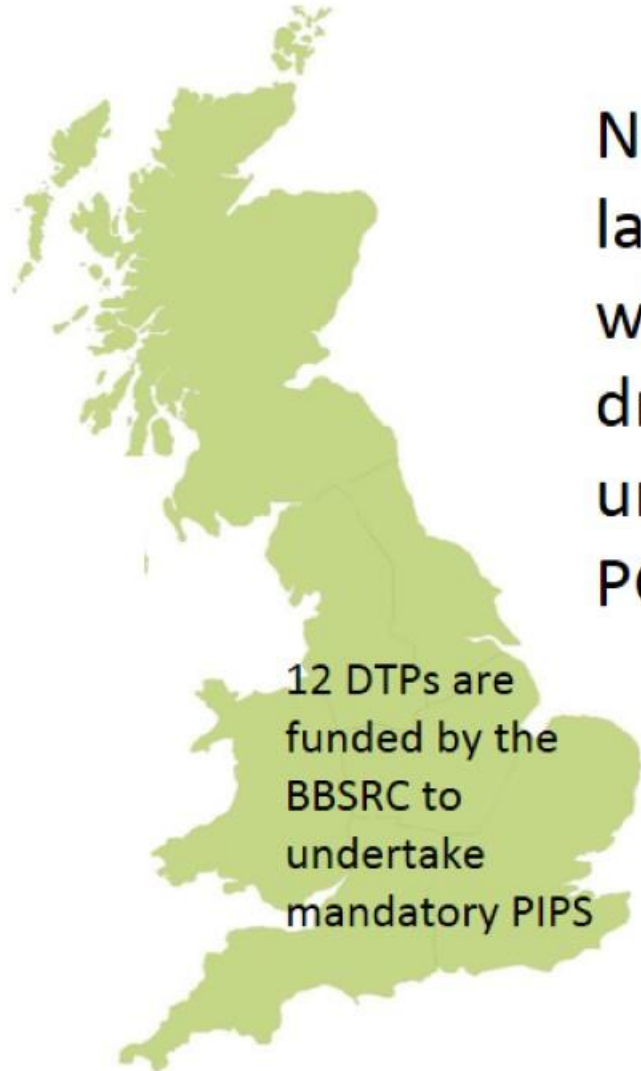


A sneak preview of the dynamic additional force the PIPS scheme is creating.



PIPS scheme impact may be immediate, or it may be felt many years later. These could be difficult to quantify and articulate.





Need further collaborative research, a larger scale study in order for more widely applicable conclusions to be drawn, whilst still being able to understand the views of individual PGRs, PhD supervisors and employers.



# Conclusion



Doctoral internships are helping to foster the desired mindset described by Sir Gareth Roberts

*“The product that the PhD researcher created is not the thesis – vital though that is to their subject knowledge, - no the product of their study is the development of themselves”*

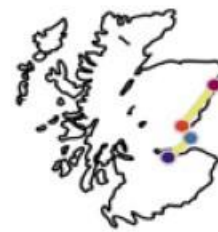
(RCUK and AHRB, 2001)





THE UNIVERSITY *of* EDINBURGH

Principal's Teaching Award Scheme



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the East of Scotland Bioscience Doctoral Training Partnership

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